

REMARKS/ARGUMENTS:

This Amendment is in response to the Office Action mailed 02/07/05. By said Action, Claim 16 was objected to because of informalities; Claims 1-5 and 7-9 were rejected under 35 U.S.C. 112, first paragraph as failing to comply with the enablement requirement; Claims 1-5 and 7-9 and 16 were rejected under 35 U.S.C. 112, second paragraph as being indefinite; Claims 14, 16 and 20 were rejected under 35 U.S.C. 102(b) as being anticipated by Onishi et al (US 6225798) (Ref. AD); Claim 15 was rejected under 35 U.S.C. 103(a) as being unpatentable over Onishi (fig. 6-7) as applied to Claim 14 above, and further in view of Onishi (fig. 8 and 5); and, Claim 17 was rejected under 35 U.S.C. 103(a) as being unpatentable over Onishi (fig. 6-7) as applied to Claim 14 above, and further in view of Onishi (fig. 8 and 5).

By this Amendment the specification has been amended to overcome the lack of enablement rejection. Furthermore, Claims 1, 14-16, and 18-20 have been amended and Claim 17 has been canceled. Claims 6 and 10-13 are withdrawn. Claims 2-5 and 7-9 remain as before. No new matter is deemed to have been added by way of these amendments.

§ 112 - Rejection for Lack of Enablement

The Examiner asserts that "a second connection" in claim 1 is not disclosed in the description and drawings. The Examiner further asserts that unloader 150 of fig. 2-3 cannot be a second connection since it was individually claimed in claim 4. Dependent claims 2-5 and 7-9 were also rejected for the same reasons.

The Applicant disagrees with the Examiner's objection that "a second connection" in claim 1 is not disclosed in the description and drawings. The first connection and the second connection are illustrated in fig. 2 of the drawings, where connectors 122-124 are operated via first connection and connectors 122-126 are operated via second connection. Both first and second connections are inside switch 120.

The connections are also illustrated in description [0042], especially lines 27-29, which recites "a switch operable to alternate electrical connection 128 from connectors 122-124 (position A) to connectors 122-126 (position B)". To clarify this point, the Applicant amends the description to include "(position A or link to the first connection)...(position B or link to the second connection)..."

In [0042], the ICs 182, 282 are subsequent batch of ICs 180, 280 not a second connect group device. ICs 180 is a first connect group and 280 is a second connect group. ICs 182 and 282 are next batch test and ICs 182 is next step first connect group and 282 is next step second connect group.

Claim 1 is amended to include "*wherein the at least two device interfaces receive a corresponding group of electronic devices at substantially the same time*". The support for this statement is found in [0015], last two sentences which reads – "...the at least two device interfaces are able to connect to their corresponding groups of electronic devices at the same time". The same term "*substantially the same time*" is mentioned in claim 11.

In view of the above, the amended claim 1 should now be considered clear and allowable.

§ 112 - Rejection for Indefiniteness

Claims 2-5 and claims 7-9 were rejected for the same reason regarding support for "second connection.

As explained above, a second connection is disclosed in the description and drawings. Hence, claims 2-5 and claims 7-9 should be allowable.

In claim 16, the Examiner asserts that "test site" is indefinite because it is unclear from the specification whether it refers to element 130/230 or 100. For examination purposes, Examiner assumed "test site" refers to element 130/230.

The Applicant believes that a person skilled in the art would appreciate that the "test site" refers to test sockets" 130/230. Elaboration of test sockets 130/230 is found in [0044] – [0046] of the description.

Further, the Examiner asserts insufficient antecedent basis for "the test site" in claim 16. The Applicant amends "the test site" to "a test site".

§ 102(b) Novelty Rejections, § 103a Obviousness Rejections

1) The cited document US Patent 6,225,798 (AD) discloses an IC tester comprising a tester part and a handler which includes two test stations, or an IC tester comprising a tester part and two handlers, in which useless waiting times wasted by the tester part are eliminated. The two test stations or the two handlers can communicate to each other so that test operations on the two part or two handlers can be carried out simultaneously with minimum waiting time at handlers.

In an IC tester according to AD, the tester tests the ICs at two test stations or the two handlers on simultaneous basis. ICs for testing are supplied to the two test stations or the two handlers independently, and ICs at both test stations or handlers are connected to the tester and are tested at the same time. AD fails to teach a test system in which ICs are supplied to two or more test stations at same time, but are tested one after another.

A test handling apparatus as recited in the amended claim 1 of the present invention has a tester interface and at least two device interface, one of the tester interface and the at least two device interface is alternately connectable, and the at least two device interfaces receive a corresponding group of electronic devices at substantially the same time.

A test handling apparatus featured according to the amended claim 1 of the present invention operates with a tester on alternate basis, i.e. electronic devices are supplied to the corresponding device interface at substantially the same time, but are tested on alternate basis, i.e. group by group.

AD's disclosures in conjunction with Figs. 5 and 8, both relate an IC tester in which ICs for testing are supplied to the test station one group after another. The corresponding disclosures do not teach that two or more groups of ICs are supplied to the test stations at substantially the same time.

In view of the above, the amended claim 1 should now be considered novel over AD.

2) An IC tester according to AD reduces the tester waiting time by providing communication means between the two test stations or two handlers. It can be understood that when tests are completed and are moved away from the test station, the tester must wait for the handler to supply subsequent ICs to the test stations for testing. As such, the tester's effective utilize time is still not optimized.

In the present application as according to the amended claim 1, the tester can be utilized to its maximum working capacity. This can be achieved by supplying two or more groups of electronic devices to corresponding device interfaces at substantially the same time, testing the first group of electronic devices, alternating the tester connections from the first group of devices to the next group, and testing the next group of devices. Tester waiting time can be greatly reduced by this feature, and overall system efficiency is greatly increased.

In view of the above, the amended claim 1 should now be considered to involve an inventive step over AD.

3) In the cited document AD text part 2 line 50 based on Fig. 5 and 6, the test tray 14 is moved in a circulating manner from and back to the loader section 16 sequentially through the constant temperature chamber 12a, the first test chamber 12b, the second chamber 12c and the temperature stress removing chamber 12d of the chamber section, and the unloader section 17.

AD's disclosures in conjunction with Figs. 5 and 6, both relate an IC tester in which ICs for testing are supplied to the test station one group after another, and the one group ICs will be testing at the first test chamber 12b and then at the second test chamber 12c. The corresponding disclosures do not teach that two or more groups of ICs are supplied to the test stations at substantially the same time, and there are many group ICs that are moving in series way. They are series moving and parallel testing.

Claim 14, claims a method of automatically testing electronic devices comprising the steps of:

in a primary test cycle

- a) connecting a first group of electronic devices to a tester interface for testing;
- b) disconnecting the first group of electronic devices from the tester interface upon completion of the testing;
- c) connecting a second group of electronic devices to the tester interface for testing,
- d) disconnecting the second group of electronic devices from the tester interface upon completion of the testing,

wherein the steps (b) and (c) are simultaneously operable.

Claim 15, claims the method as claimed in claim 14, further comprising a step of, before the step (a), loading a first group and a second group of electronic devices to a first and a second test sockets.

In claim 16, refers to a method as claimed in claim 14, further comprising a step of, after the completion of step (d), unloading the first group and the second group of electronic devices from a first and a second test sockets.

A test handling apparatus as recited in the amended claim 14, 15 and 16 of the present invention has a primary test cycle, include at least the two device interface, one tester interface and the at least two device interface is alternately connectable, and the at least two device interfaces receive a corresponding group of electronic devices at substantially the same time, but are tested on alternate basis, i.e. testing second group device after tested first group device. The Applicant's invention works on parallel moving and series testing.

In view of the above, the amended claims 14, 15 and 16 should now be considered allowable and novel over AD.

Based on item 2), the amended claims 14, 15 and 16 should now be considered to involve an inventive step over AD.

Claim 17 is now cancelled.


Depending on allowable claims 1, 14, 15 and 16, amended claims 18-20 should be allowable, too.

In view of the foregoing Amendment and remarks, it is respectfully urged that all pending claims are in condition for allowance, and such action as well as passage of this case to issue is respectfully requested.

If the Examiner has any further questions, or believes that a telephone interview would be helpful to the advancement of the prosecution of the subject application, a telephone call to the undersigned would be appreciated.

Enclosed herewith is a Petition and Fee for 1 month Extension of Time to respond the present Office Action.

Respectfully submitted,



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6/6/05

DATE

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6/6/05

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